इंटरनेट मानक

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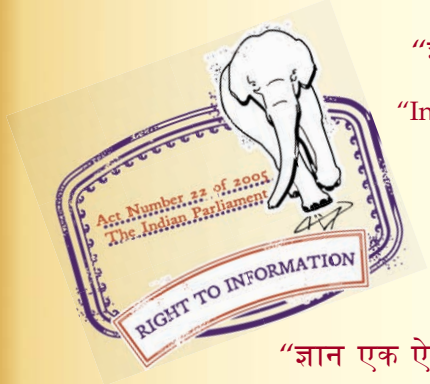
IS 4672 (1982): Grease cups [PGD 19: Lubricating Equipments]



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"ज्ञान एक ऐसा खजाना है जो कभी चुराया नहीं जा सकता है"
Bhartṛhari—Nītiśatakam
"Knowledge is such a treasure which cannot be stolen"

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UDC 621-725

Indian Standard (Reaffirmed 2001)

SPECIFICATION FOR GREASE CUPS

(First Revision)

Lubricating Equipment Sectional Committee, EDC 63 [Ref : Doc : EDC 63 (3516)]

1. Scope — Lays down the requirements for grease cups for general purposes.

2. Type — The grease cups shall be of Type A, Type B or Type C.

2.1 Grease cups of Types A and B are of light duty type and grease cups of Type C are of heavy duty type.

3. Material

3.1 Grease cups shall be manufactured from steel or brass conforming to relevant Indian Standards. Type A and Type C grease cups may also be manufactured from grey cast iron conforming to grade FG200 of IS : 210-1978 ' Specification for grey iron castings (*third revision*) '. Other materials may also be used if agreed to between the purchaser and supplier.

4. Dimensions and Capacity — The main dimensions and capacity of grease cups shall be as given in Tables 1, 2 and 3.

5. Requirements

5.1 The caps shall turn smoothly and shall be capable of being screwed down completely, so that the inner top face of the caps, when fully screwed on, shall touch the top edge of the cup. The outer periphery of the caps, for grease cups up to 20 cm^3 capacity shall be knurled whereas periphery of the caps for other sizes shall be knurled or serrated.

5.2 The grease cups shall show no signs of sand or slag inclusions, casting flash and shall be free from defects, such as cracks, flaws and burrs wherever applicable.

5.3 The grease cups of Type A and Type C shall be painted from outside with oil resistant paint. Grease cups of Type B shall be phosphated and oiled.

5.4 Cap and cup of a grease cup may be of the same or of different materials.

6. Test

6.1 *Test for Sealing* — The threads d_2 shall have such tolerances that when the grease cup is full of grease and a pressure of 0·5 MP_a (5 kgf/cm^2 approximately) is applied through the opening in the shank, for a short time, no grease shall leak through the cap threads.

Note — Pascal (Pa) is the SI unit of pressure and its relationship to other unit of pressure is given below for guidance :

$$1 \text{ pascal } (P_a) = 10.2 \times 10^{-6} \text{ kgf/cm}^2$$

7. Designation

7.1 The grease cups shall be designated by the following:

a) Commonly used name;

b) Type;

c) Type of thread (P for pipe threads and M for metric threads);

d) Size;

e) Material except for light duty grease cup, Type B (material for cups shall follow material for caps with a hyphen in between); and

f) IS number.

Adopted 27 May 1982

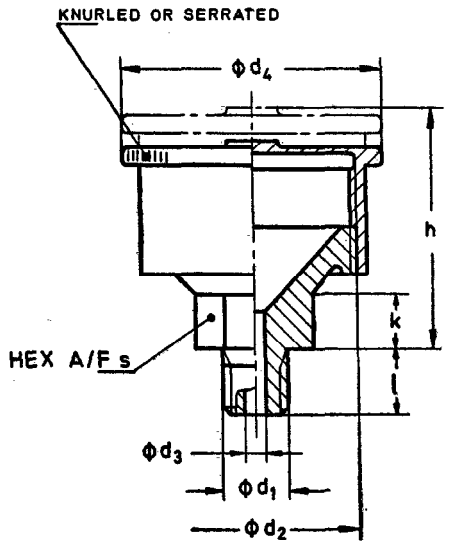
Gr 3

INDIAN STANDARDS INSTITUTION
MANAK BHAVAN, 9 BAHADUR SHAH ZAFAR MARG
NEW DELHI 110002

TABLE 1 DIMENSIONS FOR LIGHT DUTY GREASE CUPS TYPE A

(Clause 4)

All dimensions in millimetres.



Nominal Capacity cm^3	d_1*		d_2	d_3	d_4 Max	h Max	k Min	l	s	
	Pipe Thread†	Metric Screw Thread							Hex Width A/F	Permissible Deviation
1·2	1/8	M8×1	M12×1	2·5	16	30	7	8	10	$^{+0}_{-0·3}$
2·2	1/8	M10×1	M16×1	3·0	24	35	7	9	13	$^{+0}_{-0·4}$
5	1/4	M12×1·5	M22×1	4·0	28	38	10	11	17	$^{+0}_{-0·4}$
10	1/4	M12×1·5	M30×1·5	4·0	40	45	10	11	17	$^{+0}_{-0·4}$
20	1/4	M12×1·5	M36×1·5	4·0	48	50	10	11	17	$^{+0}_{-0·4}$
40	1/4	M12×1·5	M48×1·5	4·0	62	64	10	11	17	$^{+0}_{-0·4}$
60	1/4	M12×1·5	M56×1·5	4·0	70	70	10	11	17	$^{+0}_{-0·4}$
90	3/8	M16×1·5	M64×1·5	5·0	78	76	12	12	19	$^{+0}_{-0·6}$
150	3/8	M16×1·5	M80×1·5	5·0	97	81	12	12	19	$^{+0}_{-0·6}$

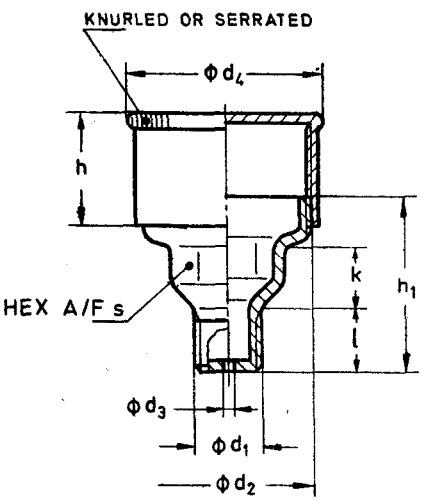
*Pipe threads shall be preferred.

†In accordance with IS : 2643 (Parts I-III)-1975 'Dimensions for pipe threads for fastening purposes *(first revision)* '.

TABLE 2 DIMENSIONS FOR LIGHT DUTY GREASE CUPS, TYPE B

(*Clause* 4)

All dimensions in millimetres.



Nominal Capacity cm³	d_1*		d_2	d_3	d_4 Max	h Approx	h_1 Approx	k Min	l	s	
	Pipe Thread†	Metric Screw Thread								Hex Width A/F	Permissible Deviation
2	1/8	M10×1	M16×1	3	19	15	23	7	8	13	+0 −0·4
5	1/4	M12×1·5	M20×1	3	24	18	28	10	9	17	+0 −0·4
10	1/4	M12×1·5	M30×1·5	3	34	18	30	11	11	17	+0 −0·4
20	1/4	M12×1·5	M38×1·5	3	42	20	36	12	11	17	+0 −0·4
40	1/4	M12×1·5	M48×1·5	3	53	23	38	12	11	17	+0 −0·4
60	1/4	M12×1·5	M56×1·5	3	61	26	38	14	11	17	+0 −0·4
90	3/8	M16×1·5	M65×1·5	4	70	28	46	16	13	19	+0 −0·6
150	3/8	M16×1·5	M78×1·5	4	82	34	50	16	13	19	+0 −0·6

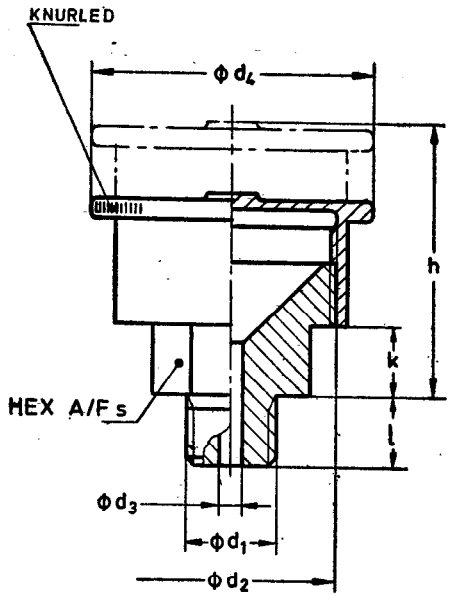
*Pipe threads shall be preferred.

†In accordance with IS : 2643 (Parts I-III)-1975.

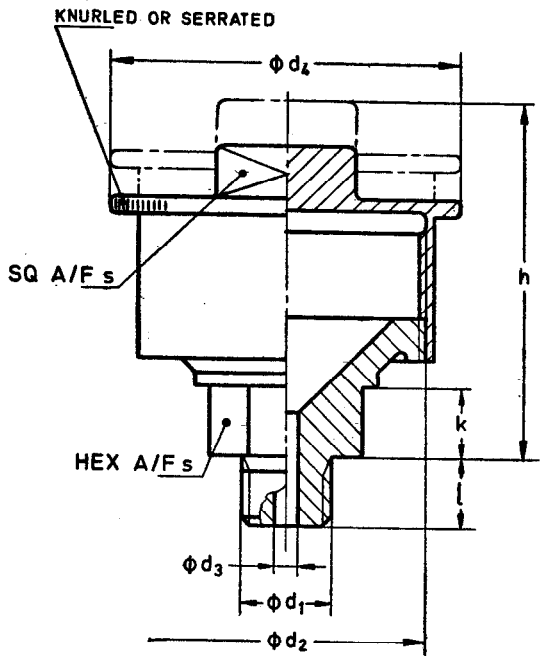
TABLE 3 DIMENSIONS FOR HEAVY DUTY GREASE CUPS, TYPE C

(*Clause* 4)

All dimensions in millimetres.



Greas Cups of Capaclty 10 and 20 cm³



Grease Cups of Capacity 40 to 440 cm³

Nominal Capacity cm³	d_1*		d_2	d_3	d_4 Max	h Max	k Min	l	s	
	Pipe Thread†	Metric Screw Thread							Width A/F	Permissible Deviation
10	3/8	M16×1·5	M30×1·5	4	40	45	12	12	19	$^{+0}_{-0·6}$
20	3/8	M16×1·5	M36×1·5	4	48	49	12	12	24	$^{+0}_{-0·6}$
40	3/8	M16×1·5	M48×1·5	4	62	64	12	12	24	$^{+0}_{-0·6}$
60	3/8	M16×1·5	M56×1·5	4	70	70	12	12	24	$^{+0}_{-0·6}$
90	1/2	M20×1·5	M64×1·5	5	78	76	15	15	30	$^{+0}_{-0·6}$
150	1/2	M20×1·5	M80×1·5	5	97	81	15	15	30	$^{+0}_{-0·6}$
270	3/4	M24×1·5	M100×1·5	6	120	94	16	18	36	$^{+0}_{-0·8}$
440	3/4	M24×1·5	M110×1·5	6	130	111	16	18	36	$^{+0}_{-0·8}$

*Pipe threads shall be preferred.

†In accordance with IS : 2643 (Parts I-III)-1975.

7.1.1 The following symbols shall be used for designating the different materials:

Steel	S
Brass	B
Aluminium	Al
Grey cast iron	GCI
Malleable cast iron	MCI

Note — When caps and cups are of the same material, there is no need for repeating the symbols for the material.

Example 1:

A light duty grease cup, Type A, having pipe threads and of nominal capacity 10 cm^3 having cap of steel and cup of aluminium shall be designated as:

Grease Cup A P 10 S-Al IS : 4672

Example 2:

A light duty grease cup, Type B, having metric screw threads and of nominal capacity 40 cm^3 shall be designated as:

Grease Cup B M 40 IS : 4672

8. Marking — The grease cups shall be stamped with the manufacturer's name or trade mark. The size and the type of the grease cup shall be stamped on the top face of the cap.

8.1 *ISI Certification Marking* — Details available with the Indian Standards Institution.

9. Packing — The grease cups shall be packed in accordance with the best prevalent trade practice or as specified by the purchaser.

10. Sampling — Unless otherwise agreed to between the buyer and supplier, the sampling plan as given in Appendix A shall be followed. For further information reference may be made to IS : 2500 (Part I)-1973 ' Sampling inspection tables : Part I Inspection by attributes and by count of defects *(first revision)* '.

APPENDIX A

(*Clause* 10)

SCALE OF SAMPLING AND CRITERIA FOR CONFORMITY

A-1. Scale of Sampling

A-1.1 *Lot* — In any consignment all the grease cups of the same type and nominal size; and manufactured from the same materials under essentially similar conditions of manufacture shall be grouped together to constitute a lot.

A-1.2 For ascertaining the conformity of the lot to the requirements of the standard, sample shall be selected and tested separately for each lot. The number of cups to be selected at ramdom for this purpose shall be in accordance with col 1 and 2 of Table 4.

TABLE 4 SAMPLE SIZE AND CRITERIA FOR CONFORMITY

(*Clauses* A-1.2 *and* A-1.4)

Number of Cups in the Lot *N*	Sample Size *n*	Permissible No. of Defective Cups
Up to 100	8	0
101 to 150	13	0
151 to 300	20	0
301 to 500	32	1
501 to 1 000	50	2
1 001 to 3 000	80	3
3 001 and above	125	5

A-1.3 The cups for the sample shall be selected at random from the lot and in order to ensure the randomness of selection, suitable random number tables shall be used. In case such tables are not available, the following procedure for selection may be adopted:

Starting from any cup in the lot count them in one order as 1, 2, 3..... up to r and so on, where r is the integral part of N/n (N being the lot size and n the sample size). Every rth cup thus counted shall be selected to constitute the sample.

A-1.4 *Number of Tests and Criteria for Conformity* — The cups selected in accordance with **A-1.2** and **A-1.3** shall be examined for capacity, dimensions (*see* **4**) and other requirements (*see* **5**); and tested for sealing in accordance with **6.1**. The lot shall be considered as having satisfied the requirements of the specification, if the number of cups failing to meet the requirements of one or more of the characteristics, is less than or equal to the permissible number of defectives given in col 3 of Table 4.

EXPLANATORY NOTE

Grease cups are devices provided with means of forcing the grease into bearings. They allow further shots to be given at any time by screwing down the cap. Grease cups are particularly useful when one bearing in a machine for some reasons requires a different type of grease from that in use. They are not suitable for use in dusty surroundings where the grease may be contaminated while the cup is open to be refilled.

This standard was first issued in 1968. In this revision, the material and surface protection requirements have been modified.

While preparing this standard, considerable assistance has been derived from the following:

DIN 3411 : 1972 Staufferbuchsen, leichte bauart. (Grease cups, light type). Deutscher Normenausschuss.

DIN 3412 : 1972 Staufferbuchsen, schwere bauart. (Grease cups, heavy type). Deutscher Normenausschuss.

CSN 027410 : 1961 Staufferovy mazanice. (Grease cups). Ceskoslovenska Statni Norma.

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